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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,231	01/29/2001	Narayanan Ganapathy	MS155741.1	9670

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EXAMINER	
HOFFMAN, BRANDON S	
ART UNIT	**PAPER NUMBER**
2136	

DATE MAILED: 09/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/772,231	GANAPATHY, NARAYANAN	
	Examiner	Art Unit	
	Brandon Hoffman	2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

- On page 14, line 11, "DOMAIN(1)" should be –DOMAIN(2) –.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Bruno et al. (U.S. Patent No. 6,604,123).

Regarding claim 1, Bruno et al. teaches a system to facilitate substantially secure communication of data from a user-level process, comprising:

- At least a first queue associated with the process, such that the process is operative to directly communicate a message relative to the first queue (fig. 3, ref. num 318); and

- A first communication context operative to communicate the message between the first queue and a second communication context (fig. 3, ref. num 506);
- Wherein communication between the first queue and the first communications context is controlled based on whether an appropriate association exists between the first queue and the first communications context, the association between the first queue and the first communications context being provided through a privileged operation not adjustable by the first process (col. 8, lines 3-13).

Regarding claim 2, Bruno et al. teaches wherein the first queue and the first communication context reside at a first node that is different from that of the second communication context (fig. 3, ref. num 312 different from 314).

Regarding claim 3, Bruno et al. teaches further comprising an interface at the first node operative to validate messages communicated from the first queue to the first communication context (col. 7, lines 23-27).

Regarding claim 4, Bruno et al. teaches wherein the interface is operative to prevent messages from being communicated from the first queue to the first communication context if an association mismatch exists between the first queue and the first communication context (col. 7, lines 23-27).

Regarding claim 5, Bruno et al. teaches wherein the appropriate association between the first queue and the first communication context requires membership to a common domain (col. 7, lines 27-54).

Regarding claim 6, Bruno et al. teaches further comprising a second queue associated with a second process at the first node, such that the second process is operative to directly communicate a message to the second queue (fig. 1, ref. num 116 and 120, a first and second queue, respectively).

Regarding claim 7, Bruno et al. teaches wherein the second queue is associated with the common domain through a privileged operation, such that the first and second queues can share the first communication context to communicate messages through a channel defined by the first communication context and the second communication context, each of the first and second queues being operative to communicate messages with at least one process at a node where the second communication context resides (fig. 3, ref. num 312 and 314 can both communicate to 318, which is in a privileged mode).

Regarding claim 8, Bruno et al. teaches wherein the first process further comprises a process operating in a user mode and the second process comprises a process operating in a user mode (fig. 3, ref. num 502 and 506, a first and second process).

Regarding claim 9, Bruno et al. teaches further including a third communication context associated with the second queue through a privileged operation at the first node, the third communication context enabling communication between the third communication context and a fourth communication context that resides a node different from the first node (fig. 3, ref. num 316 is a privileged operation between 312 and 314, which communicates to 308).

Regarding claim 10, Bruno et al. teaches wherein the common domain is a first domain, the association between the second queue and the third communication context corresponding to a second domain that is different from the first domain, wherein each communication channel established in the second domain is isolated from each channel established in the first domain (fig. 1, ref. num 116 and 120, each channel is isolated).

Regarding claim 11, Bruno et al. teaches wherein the first queue and the first communication context reside at a first node that is different from a second node at which the second communication context resides, the system further comprising a third communication context at the first node to enable communication of messages between the third communication context and a fourth communication context that resides at a third node that is different from the first node (fig. 3, ref. num 312 communicates with 314 separately than 312 communicates with 308).

Regarding claim 12, Bruno et al. teaches wherein the first queue is associated with the third communication context through a privileged operation, such that the first process is operative to communicate the message over a communication channel established between the third communication context and a fourth communication context that resides at the third node, which is different from the second node (fig. 3, ref. num 318 resides in the privileged mode, controlling operations between 312, 314, and 310).

Regarding claim 13, Bruno et al. teaches wherein the first queue and the first communication context are associated so as to be part of a first domain, the system further comprising a second queue is associated with a second process, the second queue being associated with a third communication context so as to be part of second domain that is isolated relative to the first domain (fig. 3, ref. num 312 and 308).

Regarding claim 14, Bruno et al. teaches a system to facilitate communication of data, comprising:

- A virtual hardware component at a first node operable to communicate a message received directly from an associated process (fig. 3, ref. num 318); and
- A first channel endpoint established at the first node, the first channel endpoint being operative to communicate messages to a second channel endpoint residing at a second node (fig. 3, ref. num 602);
- Wherein each of the virtual component and the first channel endpoint is associated with a respective domain through a privileged operation at the first

node, communication of messages between the virtual component and the first channel endpoint being controlled based on validation of the respective domains for the virtual component and the first channel endpoint (col. 8, lines 3-13).

Regarding claim 15, Bruno et al. teaches wherein hardware at the first node is operative to prevent messages from being sent between the virtual component and the first channel endpoint in response to detecting an invalid association between the virtual component and the first channel endpoint (col. 7, lines 23-27).

Regarding claim 16, Bruno et al. teaches wherein the virtual component is a first virtual component, the system further comprising a second virtual hardware component operative to communicate a message directly with an associated process at the first node (col. 7, lines 23-54).

Regarding claim 17, Bruno et al. teaches wherein the second virtual hardware component and the first virtual hardware component are members of a common domain, domain membership being assigned through a privileged operation not adjustable by the first or second process, wherein the first and second virtual components are operative to share the first channel endpoint of the first node, such that each of the first and second processes can communicate messages with at least one process at the second node (fig. 3, ref. num 316).

Regarding claim 18, Bruno et al. teaches further including a third channel endpoint at the first node, the third channel endpoint being operative to communicate messages with a fourth channel endpoint that resides at a node different from the first node (fig. 3, ref. num 504 or 512).

Regarding claim 19, Bruno et al. teaches wherein the virtual component is a first virtual hardware component, the system further comprising a second virtual hardware component at the first node that is associated with the third channel endpoint through a privileged operation at the first node (fig. 1, ref. num 116 and 120 communicates with the other protected domains).

Regarding claim 20, Bruno et al. teaches wherein each of the first and third channel endpoints belongs to different domains, such that each communication channel established between associated channel endpoints in one of the domains is isolated from each communication channel established between associated channel endpoints in each other of the domains (fig. 1, ref. num 114 and 118 are different domains).

Regarding claim 21, Bruno et al. teaches wherein each of the first and third channel endpoints belongs to a common domain, such that each of the first and second processes at the first node is operative to share first and third channel endpoints to respectively communicate a message with at least one process at the second and third nodes based on data in the respective message (fig. 1, ref. num 116 and 120 are same domains).

Regarding claim 22, Bruno et al. teaches a system to facilitate communication of data, comprising:

- Storage means for receiving a message provided directly from a user-level process (fig. 3, ref. num 318);
- Communication means associated with the storage means for, upon validation of a domain association between the storage means and the communication means, sending the stored request to a corresponding communication means at another node in the system (fig. 3, ref. num 602); and
- Validation means for validating the association between the storage means and the communication means, the storage means and the communication means being associated in a privileged operation not adjustable by user-level processes (col. 8, lines 3-13).

Regarding claim 23, Bruno et al. teaches a system to facilitate communication of data, comprising:

- Virtual storage means at a first node for storing a message for direct communication relative to a user-level process (fig. 3, ref. num 318);
- Endpoint communication means at the first node for means for, upon determining a common domain membership for the storage means and the endpoint communication means, enabling communication between the virtual storage means and the endpoint communication means (fig. 3, ref. num 602); and

- Control means for independently controlling domain membership for each of the virtual storage means and the endpoint communication means (col. 8, lines 3-13).

Regarding claim 24, Bruno et al. teaches wherein the endpoint communication means further includes means for preventing communication of messages between the virtual storage means and the endpoint communication means in the absence of a common domain membership among virtual storage means and the endpoint communication means (col. 7, lines 23-54).

Regarding claim 25, Bruno et al. teaches wherein the endpoint communication means further includes means for permitting communication of messages between the virtual storage means and the endpoint communication means when common domain membership exists among virtual storage means and the endpoint communication means (col. 7, lines 23-54).

Regarding claim 26, Bruno et al. teaches a computer-readable medium having computer-executable instructions for:

- In a privileged mode, setting domain membership for a queue of a first node and setting domain membership for a communication component of the first node, the communication component of the first node being operable to communicate messages with a corresponding communication component at a second node, the domain membership being inaccessible by user-level processes, the queue

being mapped into memory of an associated user-level process at the first node, such that the user-level process can communicate directly with the queue (col. 8, lines 3-13); and

- Controlling communication of message between the queue and the communication component based on the domain membership set for each of the queue and the communication component (col. 7, line 55 through col. 8, line 2).

Regarding claim 27, Bruno et al. teaches having further computer-executable instructions for providing an error message to the associated user-level process if the domain membership between the queue and the communication component is invalid (col. 7, lines 23-54).

Regarding claim 28, Bruno et al. teaches having further computer-executable instructions for analyzing the message to identify which of a plurality of communication contexts is designated and validating domain membership between the queue and the designated communication context to control communication of the message between the queue and the designated communication context (col. 7, lines 23-54).

Regarding claim 29, Bruno et al. teaches a method to facilitate communication in a system architecture in which a process is operative to communicate a message directly with a storage component coupled to at least one local communications component in a node for communicating the message for receipt by a second communications component, the method comprising:

- Associating the storage component with a domain for temporarily storing the message (fig. 3, ref. num 318);
- Associating the local communications component with a domain (fig. 3, ref. num 602); and
- Controlling communication of a message between the storage component and the local communications component based on the domain of the storage component and the domain of the local communications component (col. 8, lines 3-13).

Regarding claim 30, Bruno et al. teaches wherein the domain for the storage component and the domain for the association of the local communications component are implemented independently in privileged operation not adjustable by the user-level process (fig. 3, ref. num 316).

Regarding claim 31, Bruno et al. teaches wherein the controlling further comprises validating the domain of the storage component relative the domain of the local communication component (col. 7, lines 27-47).

Regarding claim 32, Bruno et al. teaches further comprising preventing communication of the message from the storage component to the communication component in the absence of a match between the domain of the storage component and the domain of the communication component (col. 7, lines 23-27).

Regarding claim 33, Bruno et al. teaches further comprising generating an error message in the absence of a match between the domain of the at least part of the storage component and the domain of the communication component (col. 6, lines 15-19).

Regarding claim 34, Bruno et al. teaches further comprising sending the message from the storage component to the communication component in response to a valid association existing between the domain of the storage component and the domain of the communication component (col. 7, lines 27-54).

Regarding claim 35, Bruno et al. teaches further comprising discerning from the message which of at least one of a plurality of communication components is designated and validating association between the storage component and each designated communication component to control communication of the message between the storage component and each designated communication component (col. 7, lines 23-54).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon Hoffman whose telephone number is 703-305-4662. The examiner can normally be reached on M-F 8:30 - 5:00. However, my new number will be 571-272-3863 after our move on October 25, 2004.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 703-305-9648. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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